



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/581,454

06/01/2006

Masaki Nakano

047083-0112

2192

22428 7590 03/02/2010  
FOLEY AND LARDNER LLP  
SUITE 500  
3000 K STREET NW  
WASHINGTON, DC 20007

EXAMINER

IRVIN, THOMAS W

ART UNIT

PAPER NUMBER

3657

MAIL DATE

DELIVERY MODE

03/02/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/581,454	<b>Applicant(s)</b> NAKANO, MASAKI	
	<b>Examiner</b> THOMAS IRVIN	<b>Art Unit</b> 3657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 9, 10 and 12-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20060601</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

Claims 9, 10, and 12-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-8 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim elements “means for applying”, “detecting mechanism for detecting”, “device for applying”, and “means capable of shifting” are means (or step) plus function limitations that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to clearly link or associate the disclosed structure, material, or acts to the claimed function such that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function.

Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it clearly links or associates the corresponding structure, material, or acts to the claimed function without introducing any new matter (35 U.S.C. 132(a)); or

(c) State on the record where the corresponding structure, material, or acts are set forth in the written description of the specification that perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Regarding claims 1-8 and 11, the word "means" is preceded by the word(s) "valve", "braking", "brake operating" and "force detecting" in an attempt to use a "means" clause to recite a claim element as a means for performing a specified function. However, since no function is specified by the word(s) preceding "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

Claim 1 is generally narrative and indefinite, failing to conform with current U.S. practice, and appears to be a literal translation into English from a foreign document and is replete with grammatical and idiomatic errors. "The brake device" in line 3 should be deleted. In line 2, "a braking means that applies brake force according to brake fluid pressure to a rotator" should be reworded. It is unclear what structure is encompassed by "a reducing direction of the brake fluid pressure" and how fluid pressure has a direction.

Claim 7 recites the limitation "the rotating electric machine" in line 2; "the regenerative brake torque" in line 11; and "the machine-side cylindrical case" in line 12. There is insufficient antecedent basis for these limitations in the claim. Additionally, it is not clear what the differences are between the "wheel-cylinder fluid pressure modulator valve" and the previously claimed "pressure-reducing valve means". With reference to fig. 1, it appears that they are one in the same, although they are claimed as being separate elements.

Claim 8 recites the limitation "the valve member" in line 8. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Kidstom et al. (5,615,933).

In Re claim 1, Kidstom et al. disclose a brake device for an electric vehicle, wherein the brake device has a pressure reducing means, brake control (66), for reducing a braking direction force to the fluid brake pressure.

In Re claim 2, see solenoid valves (102,104).

In Re claim 3, see wheels (24,26,44,46) and wheel speed sensors (28,30,52,54), understood to encompass the claimed “reaction force detecting mechanism”.

In Re claim 4, the wheels and brake disks (32,34) are swingably mounted to the vehicle, in that they rotate relative to the vehicle and calipers (36,38). The brakes are understood to have a swing movement when the fluid pressure is reduced, thus allowing the wheels and brake disks to rotate.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kidstom et al. (5,615,933) as applied to claims 1-4 above, and further in view of Laurent et al. (6,113,119).

In Re claims 5 and 6, Kidstom et al. fail to teach the location of the motor drive unit (18).

Laurent et al. teach integrating a drive motor (97) into a wheel and brake assembly of an electric vehicle. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have integrated the drive and brake device of Kidstom et al. into a wheel assembly, as taught by Laurent et al., to reduce packaging

Art Unit: 3657

and manufacture a complete wheel connecting system which is easy to integrate into a vehicle.

In Re claims 7 and 11, see motor (97) of Laurent et al.; and additionally see master cylinder (78), brake operating means, pedal (70), wheel-cylinder pressure chambers (adjacent 36,38), return fluid pressure chamber (80), and modulator valves (102,104) of Kidstom et al.. Additionally, the ABS system including the calipers and wheels speed sensors are understood to meet applicants limitations including a mechanical feedback and working arm, in that the brakes mechanically impart a braking torque on the brake disk and the wheel speed sensor causes the solenoid valve to mechanically open, thus reducing the braking effort which can be balanced with the on-demand brake torque. Applicant is suggested to reword the mechanical feedback to specifically point out the mechanical working relationship and relative movement between the claimed brake device elements.

***Allowable Subject Matter***

Claim 8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS IRVIN whose telephone number is (571)270-3095. The examiner can normally be reached on M-F 10-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on (571) 272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas Irvin/  
Examiner, Art Unit 3657

/Bradley T King/  
Primary Examiner, Art Unit 3657